

What is claimed is:

1. A magnetic field molding device used in producing a ferrite magnet, comprising:

a die for compression-molding a molding slurry, wherein the slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium and injected into the die,

a magnetic field generating source for applying a magnetic field to the slurry within the die in a given direction, and

a temperature control unit for controlling the temperature of the die.

2. The magnetic field molding device according to claim 1, wherein the temperature control unit comprises a heater provided in the die for heating the die and a controller for controlling the heater.

3. The magnetic field molding device according to claim 1, wherein the temperature control unit comprises a flow path provided in the die, a pump for sending a liquid medium into the flow path and a heat source for heating the liquid medium.

4. The magnetic field molding device according to claim 2, wherein the temperature control unit controls the temperature of the die from 40 through 120°C.

5. The magnetic field molding device according to claim 2, wherein the temperature control unit controls the temperature

of the die from 40 through 100°C.

6. The magnetic field molding device according to claim 1, wherein the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets.

7. The magnetic field molding device according to claim 6, wherein the die is provided with delivery paths for injecting the slurry into each of the cavities.

8. A method for producing a ferrite magnet, comprising:
a molding step in which a molding slurry produced by dispersing a powder mainly composed of ferrite in a dispersion medium is injected into a die kept from 40 through 120°C and the slurry is compression-molded in a magnetic field of a given direction to produce a molded body, and
a sintering step in which the molded body is sintered into a ferrite magnet.

9. A method for producing a ferrite magnet, comprising:
a slurry producing step in which a powder mainly composed of magnetoplumbite type ferrite are dispersed in a dispersion medium to produce a molding slurry,
a molding step in which the slurry having the dispersion medium viscosity of 0.70 [mPa·s] or less is compression-molded in a magnetic field of a given direction to produce a molded body, and

a sintering step in which the molded body is sintered into a ferrite magnet.

10. The method for producing a ferrite magnet according to claim 9, wherein in the molding step, the dispersion medium in the molding slurry injected into the die is kept at a viscosity of 0.70 [mPa·s] or less by heating the die.

11. The method for producing a ferrite magnet according to claim 9, wherein the dispersion medium is water.

12. A die for compression-molding a molding slurry to form a molded body of a given shape in a production process of a ferrite magnet, wherein said slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium, comprising:

- a cavity (cavities) for forming the molded body,
- a delivery path for injecting the slurry into the cavity (cavities) from the outside of the die, and
- a heater-holding mechanism provided to hold a heater for heating the die.

13. The die according to claim 12, wherein the heater-holding mechanism is in the form of a concavity through which the heater is inserted into the die.

14. The die according to claim 12, wherein the heater is held in the heater-holding mechanism.

15. The die according to claim 12, wherein the heater-holding mechanism is provided along the delivery path.

16. A die for compression-molding a molding slurry to form a molded body of a given shape in a production process of a ferrite magnet, wherein said slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium, comprising:

a cavity (cavities) for forming the molded body,

a delivery path for injecting the slurry into the cavity (cavities) from the outside of the die, and

a flow path for a liquid medium heated by an external heat source,

wherein the die can be heated by flowing the liquid medium through the flow path.

17. The die according to claim 12 or 16, wherein a plurality of the cavities are provided in the die, and the delivery path has a volume at least the same as the slurry volume to be injected into said plurality of the cavities for one molding cycle.

18. The die according to claim 12 or 16, wherein said plurality of the cavities are provided in the die, and each of the individual delivery paths has an almost equal length towards

the individual cavities.

19. The die according to claim 12 or 16, wherein the die has at least 8 cavities.